

JOURNAL OF THE LEPIDOPTERISTS' SOCIETY

Volume 22

1968

Number 1

LEPIDOPTERA OF THE CENTRAL BRAZIL PLATEAU.

II. NEW GENERA, SPECIES, AND SUBSPECIES OF HESPERIIDAE

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This paper represents the first supplement to our previous list of Rhopalocera of the Brazilian planalto central (Brown & Mielke, 1967). Two genera, and 17 species and subspecies of Pyrginae and Hesperinae are herein described as new categories.

Wing measurements are from base to apex; generic characters outlined in the catalogue of Evans (1953, 1955) are generally omitted from the descriptions of new species. The drawings of valvae may reflect some distortion caused by pressing the preparation to the bottom of a Petri dish with a cover slip. The author made all drawings and photographs of the types.

Unless otherwise stated, the types are deposited in the collection of the author, Department of Zoology, Universidade Federal do Paraná, Curitiba, Brazil.

ACKNOWLEDGMENTS

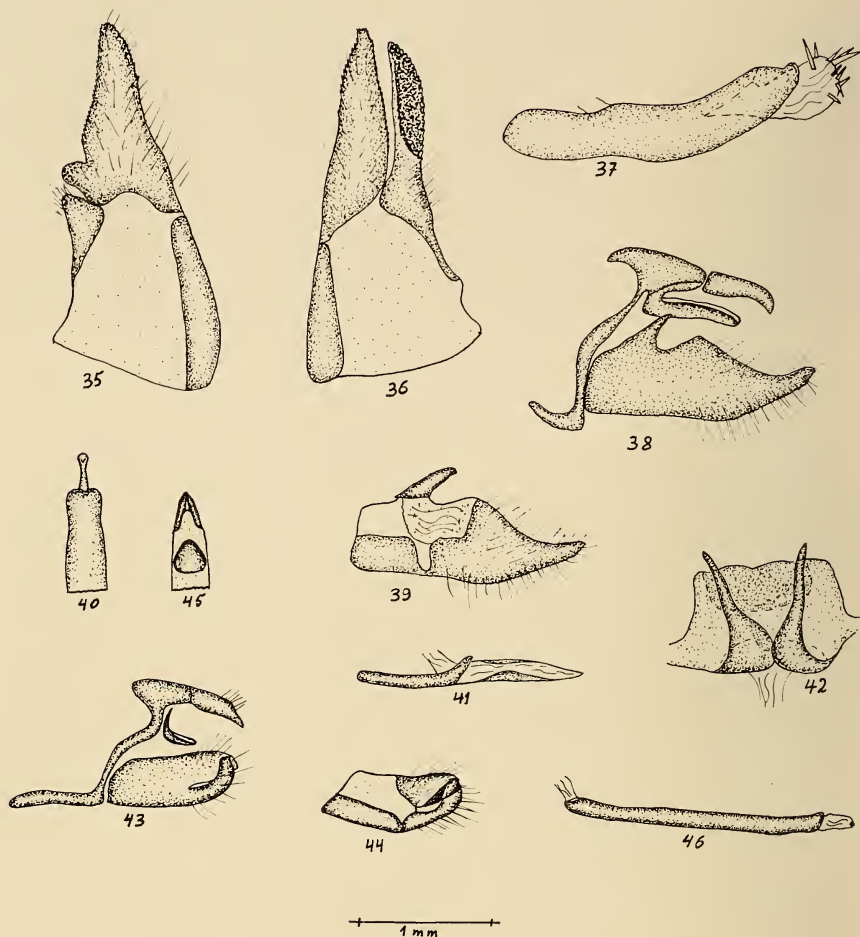
The author thanks the Brazilian Conselho Nacional de Pesquisas for aid in the form of a fellowship, which made this study possible, and Dr. Keith S. Brown, Jr., who translated this paper from the Portuguese.

Myrinia catua Mielke, new species

Figs. 1, 2, 35-37

Male. Length of forewing: 22.5 mm. Antennae externally brown and internally yellow. Nudum composed of ten to twelve segments. Head, vertex light brown, frons with a white spot. Genae white. Palpi white ventrally, light brown dorsally. Thorax and abdomen light brown dorsally, ventrally (with exception of pectus, which is white) gray. Legs with femora whitish, light brown distally.

Dorsal surface of forewing divided in two by a discal line, from vein 1 to vein 4, where it is dislocated slightly toward the external margin, continuing until it reaches the costa in space 9, proximal area more or less uniformly dark chocolate



EXPLANATION OF PLATE V

35) *Myrinia catua*, Holotype male, right valva, inner surface; 36), same, left valva, inner surface; 37) same, lateral view of aedeagus; 38) *Quadrus zolus*, Paratype male, genitalia, lateral view; 39) same, right valva, inner surface; 40) same, gnathos and uncus, ventral view; 41) same, aedeagus, lateral view; 42) same, Allotype female, ostium, ventral view; 43) *Dardarina para*, Paratype male, genitalia, lateral view; 44) same, right valva, inner surface; 45) same, gnathos and uncus, ventral view; 46) same, aedeagus, lateral view.

brown; base a little lighter; end of cell with two black ocelli, one above the other, each with a central white dot; distal area light chocolate brown, darkening at the termen in spaces 1a-4.

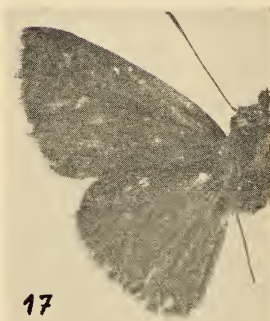
Ventral surface of forewing with the same line from vein 1 to costa, lighter; apex and two thirds of costal margin more yellowish, and termen a little darker.

Dorsal surface of hindwing of the same color as forewing. Base, termen and irregular discal band from space 1c to 6, dark brown.



EXPLANATION OF PLATE I

1) *Myrinia catua*, Holotype male, dorsal; 2) same, ventral; 3) *Ouleus fridericus candangus*, Holotype male, dorsal; 4) same, ventral; 5) *Quadrus zolus*, Holotype male, dorsal; 6) same, ventral; 7) *Quadrus u-lucida parabus*, Holotype male, dorsal; 8) same, ventral; 9) *Dardarina para*, Holotype male, dorsal.



EXPLANATION OF PLATE II

10) *Dardarina para*, Holotype male, ventral; 11) *Radiatus bradus*, Holotype male, dorsal; 12) same, ventral; 13) *Peba striata*, Holotype male, dorsal; 14) same, ventral; 15) *Vidius felus*, Holotype male, dorsal; 16) same, ventral; 17) *Cymaenes laza*, Holotype male, dorsal; 18) same, ventral.

Ventral surface of hindwing same color as ventral surface of forewing, with discal band as on the upper side but somewhat fainter.

Genitalia of male similar to *M. myris*, from which it is most easily distinguished by the number of cornuti on the vesica, in *catua*, 10, in *myris*, 6. The two species

are dissimilar, externally *catua* being larger, much lighter overall, and lacking violet iridescence and possessing white genae.

Holotype male, Paracatú, Minas Gerais, Km. 482.5 Belo Horizonte-Brasília, Aug. 22, 1965, collected by K. Brown (holotype no. 9660).

***Ouleus fridericus candangus* Mielke, new subspecies**

Figs. 3, 4

Male. Length of forewing: 14–15 mm. Very similar to *O. fridericus riona* Ev., from which it is distinguished by the light designs being more restricted, and by the tornal half of the ventral surface of the hindwing which is pure white and not just the posterior one-third whitish as in *O. f. riona*.

Holotype male, and four male paratypes, Jardim Zoológico, Brasília, Distrito Federal, Feb. 21, 1966, collected by O. Mielke (holotype no. 8856). Four paratypes in collection of author. One male paratype, Campinas, Goiânia, Goiás, December 1937, and one paratype (lacks abdomen), Rio Preto, São Paulo, April 1930, both collected by R. Spitz, in the collection of the Departamento do Zoologia, Secretaria de Agricultura do Estado de São Paulo.

Ouleus fridericus fridericus occurs in northern South America (Columbia, Venezuela, the Guianas, Peru, northern Brazil: Amazonas, Pará), while *O. f. riona* is found around the southern borders of the planalto of Brazil: Bahia, Espírito Santo, Minas Gerais, Rio de Janeiro, Guanabara; Paraguay; Argentina: Misiones; and Bolivia: Santa Cruz, Yungas, La Paz.

***Quadrus zolus* Mielke, new species**

Figs. 5, 6, 38–42

Male. Length of forewing: 15–16 mm. Antennae brown with yellow scales on the ventral side of the club and apiculus. Head white with a transverse black line, vertex black with a white spot behind the insertion of the antennae. Genae white. Second segment of palpi white ventrally, black laterally and distally. Third segment black with some ventral white scales. Collar orange. Thorax and abdomen brown dorsally, blue-white ventrally. Legs brown, with inner surface of femora and tibiae bluish.

Dorsal surface of forewing light brown with faint violaceous iridescence, crossed by two dark brown lines: one submarginal, curved, from tornus to the costal margin in space 8; the other from the middle of the inner margin to space 4, where curved proximally, reaching space 8 and including 3 small apical hyaline spots in spaces 6–8 and two additional small discal hyaline spots in spaces 2 and 3; apical spot in space 7 a little dislocated toward the base; marginal line and base darker; distal half of cell occupied by a subrectangular black patch which includes two hyaline spots, one above the other, at times occurring one more at the inferior distal angle; a further hyaline spot in space 11 above the two hyaline spots in the cell.

Ventral surface of forewing with the same spots and black cellular patch as on the dorsal side, with the latter more diffuse, general shade is lighter, especially in spaces 1a, 1b, and the base of 3; proximal third of costa blue in spaces 11 and 12;

small discocellular area lighter than on dorsal surface; double whitish spot in space 1b, and another smaller one on the margin of the same space.

Dorsal surface of hindwing same color as the forewing. Base, two lines and marginal line darker; discal line from internal margin to space 6, submarginal line from space 1c to 6; base seems to be a continuation of the discal line of the forewing.

Ventral surface of hindwing entirely blue except for marginal line and marginal area of spaces 4-7, which are brown, and space 1b which is blue-white.

Female. 16mm. Spot behind insertion of antennae orange instead of white, and forewings more rounded than male.

Holotype male, allotype female, and two male paratypes, Jardim Zoológico, Brasília, Distrito Federal, Feb. 21, 1966, collected on flowers of "Gervão" (*Stachytarpheta* sp., Verbenaceae), collected by O. Mielke. (holotype no. 8890).

***Quadrus u-lucida parabus* Mielke, new subspecies**

Figs. 7, 8

Male. Length of forewing: 16-17 mm. Dorsal and ventral surfaces of forewing and upper surface of hindwing similar to *u-lucida*, but darker; vitreous spots identical, except that of space 8 absent. The large difference is on the ventral surface of the hindwing; the posterior half is white and not blue-white as in the *u-lucida*, with which we made comparisons, white area is larger, covering spaces 1a-3 in the male and up to 4 in the female, no dark margin in these spaces as in *u-lucida*, only the fringe and a small spot on the anal angle (1b) are darker.

Genitalia similar to *u-lucida*.

Female. Length of forewing: 17.5 mm. Forewings less produced.

Holotype male, Paraopeba woods, Minas Gerais, Feb. 27, 1966, collected by O. Mielke. Allotype, female, Jardim Zoológico, Brasília, Distrito Federal, Feb. 21, 1966, collected by O. Mielke (holotype no. 8885).

Nine male paratypes: one male, Jardim Zoológico, Brasília, Distrito Federal, Feb. 21, 1966; one male, Sobradinho woods, Brasília, Distrito Federal, Feb. 22, 1966; two males, Fercal, Ribeirão da Contagem, Distrito Federal, Feb. 23 and 25, 1966; four males, Estação Florestal de Experimentação, Paraopeba, Minas Gerais, Feb. 19 and 27, 1966. The eight paratypes above collected by O. Mielke are in the collection of the author. One male, Ferrobél, Serra, Belo Horizonte, Minas Gerais, June 3, 1966, collected by K. Brown. Deposited in the collection of K. Brown.

Quadrus u-lucida u-lucida is known from areas south of the range of *Q. u. parabus* (Brazil: Rio Claro, São Paulo, Paraná, Pelotas, Rio Grande do Sul; Paraguay; and Argentina: Misiones).

***Dardarina para* Mielke, new species**

Figs. 9, 10, 43-47

Male. Length of forewing: 9-10 mm. Antennae black, shaft ringed with white

next to club. Head brown with a few whitish hairs. Palpi white with long black scales. Genae white. Collar, shoulder covers and tegulae brown with some yellow scales. Thorax and abdomen brown with yellow scales, ventrally whitish, more accentuated on the pectus. Legs yellowish with femora of first and second pairs whitish.

Dorsal surface of forewing dark brown, more accentuated at the base, with whitish spots covered by brown scales, principally in the discal area, spaces 1b, 2, and the cell; a subapical line in spaces 6-8, two adjacent dots in spaces 4-5 (between the apical dots and the termen) and an isolated dot in space 3 (between the dots of spaces 2 and 4); fringe gray.

Ventral surface of forewing of the same shade as upper; same dots, sharper, however, with a large spot in space 1b; space 12 ochreous; terminal line and veins near apex yellow; four additional very small submarginal dots distal to the dots in spaces 4-5 and 6-8;

Dorsal surface of hindwing brown, like the forewing, discal area somewhat ochre.

Ventral surface of hindwing brown with marginal line and vein 1a yellow; design very complicated, for there are no lines, but rather randomly spaced spots; space 8 with some yellow scales, as all the ventral surface of the hindwing; space 7 with 3 whitish dots, the most distal being smaller and surrounded by a brown patch; space 6 with whitish triangular base, one tiny dot of the same color in a marginal brown patch; spaces 4-5, brown at the base, with 4 small whitish dots distally, two above and two below (divided by vein 5); cell brown proximally, distally with a whitish spot, discocellular yellowish; space 3 with central whitish spot; space 2 with 2 whitish spots, one basal and the other median; space 1c with a central and 4 distal whitish spots, these in pairs one above the other; this design is quite variable in intensity; there are examples in which the whitish is reduced, and at times a very faint bluish tint occurs, principally at the costa.

Female. Length of forewings: 9-10 mm.

Holotype male, allotype female, and five paratypes (4♂♂, 1♀), Paraopeba woods, Minas Gerais, Feb. 27, 1966, collected by O. Mielke (holotype no. 8951). Allotype, and five paratypes in the collection of the author. The type series was collected on grass in a clearing in the forest interior.

Radiatus Mielke, new genus

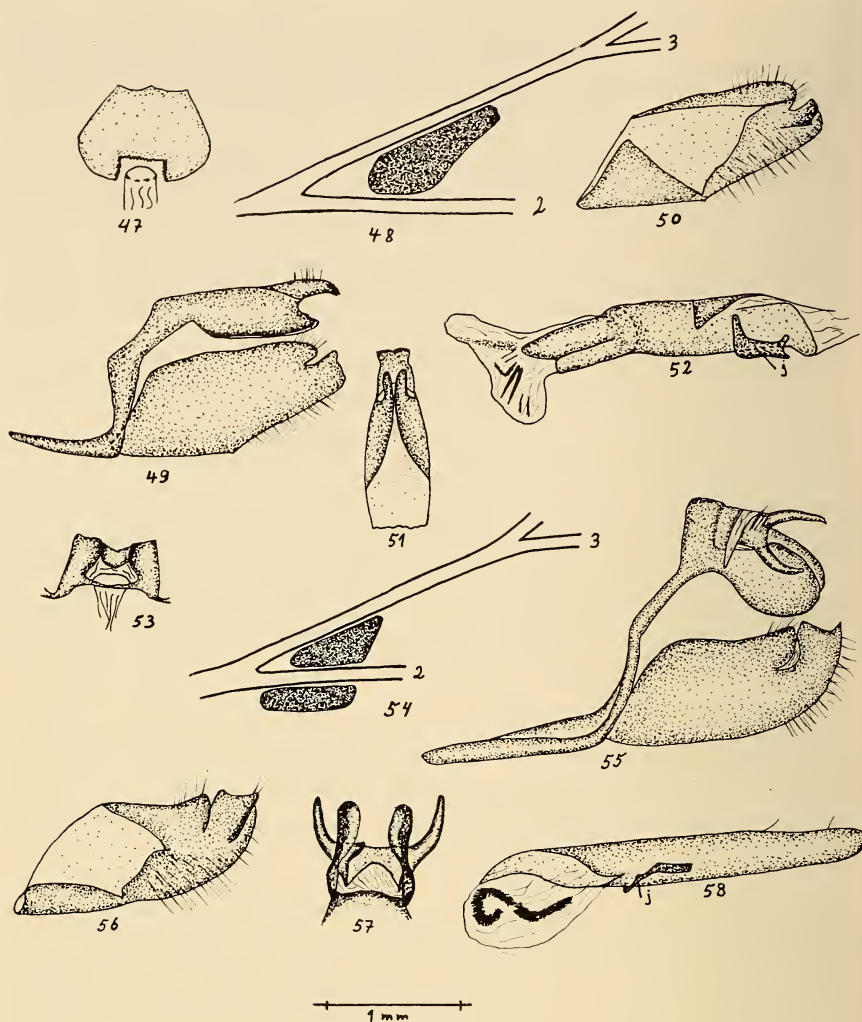
Genus near *Callimormus*. Wings produced as in *Callimormus alsimo* (Moeschler). Antennae slightly longer than half the length of costa. Club slender, apiculus long. Nudum 0/10. Shaft dark brown, yellowish under club and apiculus. Subtriangular stigma at the base of space 2 (see figure 48). Tibia of second pair of legs spined. Third segment of palpi long and slender. Eye dark red. Vein 5 curved at the base. Cell of hindwing equal to half of wing length. Yellowish veins on underside. Genitalia very different from *Callimormus*.

Type of genus: *Radiatus bradus* Mielke, described below.

Radiatus bradus Mielke, new species

Figs. 11, 12, 48-53

Male. Length of forewing: 13.5 mm. Ground color dark brown. Antennae with internal faces of club and apiculus yellowish. Head with yellowish scales on the vertex near eyes, and a line between the antennae. Genae white. Second segment of palpi, collar, shoulder covers and tegulae with some yellowish scales. Legs yellowish internally; thorax whitish ventrally; abdomen with diffuse whitish line on the pleura and four sharper lines ventrally.



EXPLANATION OF PLATE VI

47) *Dardarina para*, Paratype female, ostium, ventral view; 48) *Radiatus bradus*, Holotype male, stigmal area of right forewing; 49) same, genitalia, lateral view; 50) same, right valva, inner surface; 51) same, gnathos and uncus, ventral view; 52) same, aedeagus, lateral view; 53) same, Allotype female, ostium, ventral view; 54) *Peba striata*, Paratype male, stigmal area of right forewing; 55) same, genitalia, lateral view; 56) same, right valva, inner surface; 57) same, gnathos and uncus, ventral view; 58) same, aedeagus, lateral view. *j* = *juxta*.

Dorsal surface of forewing with a small yellow dot in space 1b (in male) and some yellow scales along the subcosta, reaching the apex in the male; fringes gray.

Ventral surface of forewing with a weak violet iridescence at the apex; marginal line black, submarginal line yellowish; veins at the apex and costal margin yellowish; large whitish spot in space 1b.

Ventral surface of hindwing with a faint violet iridescence with exception of space 1b and the inferior half of 1c; fringes and marginal line as with forewing; submarginal line made up of small yellowish cones; veins yellowish, including discocellular and a line from the base across the middle of the cell and thence to the external margin; a lighter diffuse line divides space 1c into two parts; four discal dots in spaces 2, 3, 6, and 7; space 1b and inferior half of 1c with diffuse yellowish scales.

Female. Length of forewing: 13.5 mm.

Holotype male, Sobradinho woods, Brasília, Distrito Federal, Feb. 22, 1966, collected by O. Mielke. Allotype, female, Sobradinho river, Brasília, Distrito Federal, Feb. 22, 1966, collected by O. Mielke (holotype no. 8964). Allotype in the collection of the author.

***Peba* Mielke, new genus**

Genus near to *Callimormus* Scudder, differing from this principally by the shape of the brand and the male genitalia. The stigma consists of two parts (one above the other), the first triangular at the base of space 2, the second a bar in space 1b below vein 2. The uncus, seen from above, reminds one of the horns of a Dutch bull and the gnathos of two vertical plates fastened by one edge. Antennae a little longer than half the length of the costa. Club slender and apiculus long. Yellow at base of club and under apiculus. Shaft plain. Nudum $\frac{9}{10}$. Third segment of palpi long and slender. Tibia of second pair of legs spined. Veins on ventral surface of wings yellowish.

Type of genus: *Peba striata* Mielke, described below.

***Peba striata* Mielke, new species**

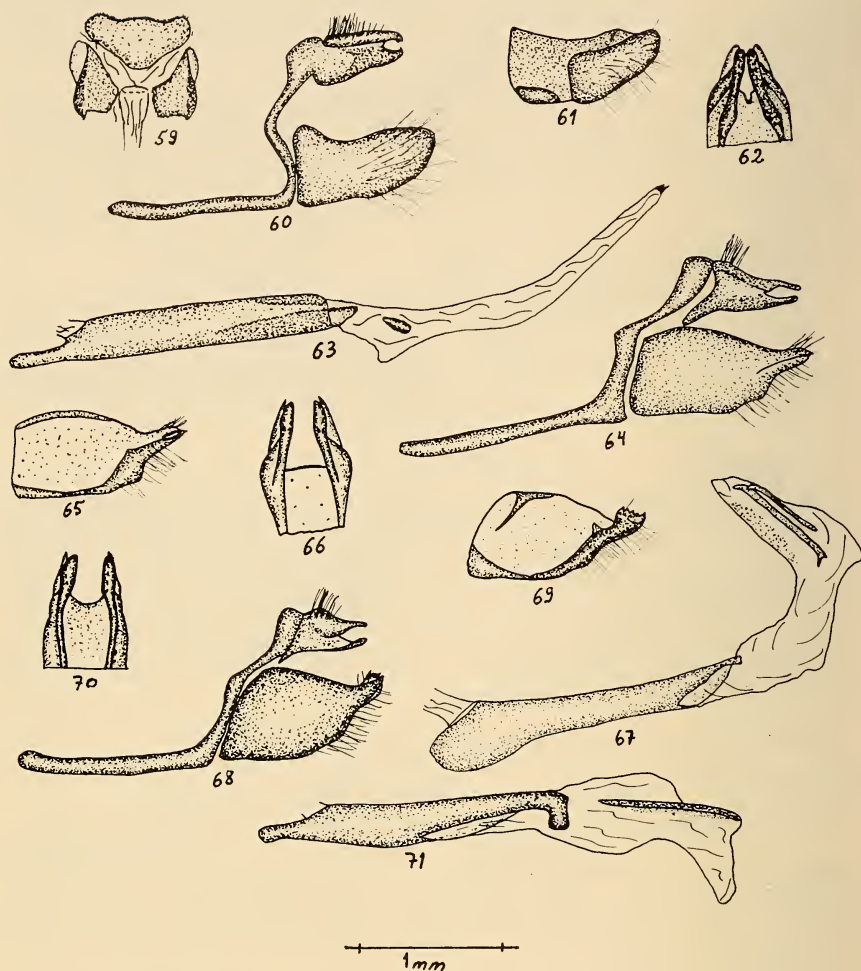
Figs. 13, 14, 54-59

Male. Length of forewing: 11-12 mm. Ground color dark brown. Antennae as described for the genus. Head with diffuse yellow scales dorsally. Genae white. Palpi with yellow scales on the second segment, lighter at the base. Collar, shoulder covers and tegulae with some yellow scales. Thorax and abdomen gray ventrally. Legs yellowish internally.

Dorsal surface with vestigial dots in discal, apical and cellular areas in the form of some yellow scales in spaces 1a, 1b, 2, 3, 6, 7, 8, 9, 10, and the end of the cell; variable, all of these scales never appear together in a single specimen, fringes lighter.

Under surface of forewing with weak violet iridescence on the costal margin and apex; spaces 1a and 1b lighter; gray patch in the middle of space 1b; terminal line black, and submarginal line very weak, yellowish; veins of costal margin, at apex, radius and discocellular yellowish.

Ventral surface of hindwing like the costal margin and apex of the ventral surface of the forewing; fringes, marginal and submarginal lines as on the forewing except the submarginal line sharper; veins yellowish, including discocellular, and a line from the base to the middle of the discocellular, continuing to the termen; a yellowish line in space 1c from base to termen, dividing the space into two parts, the one



EXPLANATION OF PLATE VII

59) *Radiatus bradus*, Paratype female, ostium, ventral view; 60) *Vidius felus*, Holotype male, genitalia, lateral view; 61) same, right valva, inner surface; 62) same, gnathos and uncus, ventral view; 63) same, aedeagus, lateral view; 64) *Cybaenes laza*, Holotype male, genitalia, lateral view; 65) same, right valva, inner surface; 66) same, gnathos and uncus, ventral view; 67) same, aedeagus, lateral view; 68) *Cybaenes chapa*, Holotype male, genitalia, lateral view; 69) same, right valva, inner surface; 70) same, gnathos and uncus, ventral view; 71) same, aedeagus, lateral view.

closer to the internal margin possessing yellowish scales and the other with a small yellowish streak, the beginning of a series of discal dots in spaces 2-7, those of spaces 4 and 5 generally absent; space 1b without violet iridescence.

Female. Length of forewing: 11-12 mm.

Holotype male, allotype female, and six paratypes (3♂♂, 3♀♀), Paraopeba woods, Minas Gerais, Feb. 27, 1966, collected in forest clearings, by O. H. H. Mielke (holotype no. 8961). Allotype, and six paratypes in the collection of author. One additional male paratype, Paraopeba woods, Minas Gerais, June 6, 1966, collected by K. Brown. Deposited in collection of K. Brown.

Vidius felus Mielke, new species

Figs. 15, 16, 60-63

Male. Length of forewing: 12.5 mm. Antennae brown; shaft checkered, base of club and apiculus whitish ventrally. Head with whitish scales, principally before and behind insertion of antennae. Palpi whitish with brown hairs, more accentuated on the distal part of second segment; third segment brown. Genae and collar whitish. Shoulder covers and tegulae brown. Thorax and abdomen brown dorsally, grayish ventrally. Legs grayish.

Dorsal surface of forewing; ground color brown, with yellow opaque spot in space 1b and hyaline discal spots in spaces 2 and 3, and apical spots in spaces 6, 7, and 8 (of space 7 slightly closer to base); two spots, one above the other, in the distal half of the cell; narrow black marginal line; fringes gray.

Ventral surface of forewing with the same spots as upper side; lighter at the costa (from base to apical spots), in the distal half of spaces 1a and 1b, and from apex to space 3, entering spaces 4 and 5, forming an isolated patch of dark brown between the apical spots and the marginal area of the apex; marginal line black.

Dorsal surface of hindwing with the same shade as forewing. Discal and basal areas lighter, and divided by a line of the ground color (corresponding to the band on the under side).

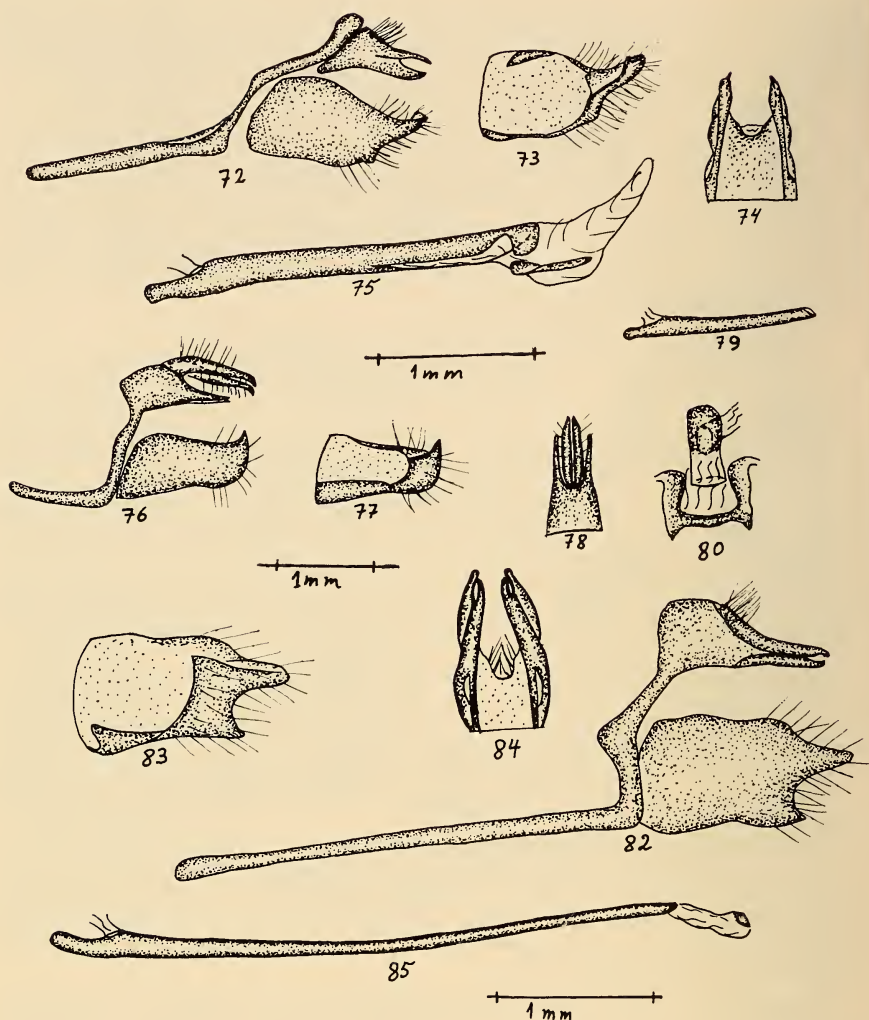
Ventral surface of hindwing light brown with spaces 1a, 1b, internal half of 1c, and the termen medium brown; a dark brown discal band from middle of space 1c to the end of space 7, where it is widest, touching the cell; spots of the same darker color at the base, in the middle of space 7 (largest), in the middle of the cell, and submarginally in the spaces 1c-3; all pattern elements bordered by fine whitish lines. Marginal line black.

Holotype male, Km. 222, Belo Horizonte-Brasília highway, Município Felixlândia, Minas Gerais, Feb. 20, 1966, collected at edge of woods, by O. Mielke (holotype no. 9095). One male paratype, Murtinho, Mato Grosso, December, 1920, collected by R. Spitz, in the collection of the Departamento de Zoologia, Secretaria de Agricultura, São Paulo.

Cymaenes laza Mielke, new species

Figs. 17, 18, 64-67

Male. Length of forewing: 13 mm. Dark brown. Antenna shaft checkered yellow, yellow under the club and apiculus. Head with white scales anterior to insertion of antennae; second segment of palpi brown and white; genae and collar whitish. Thorax and abdomen grayish ventrally. Legs grayish. Dorsal surface of



EXPLANATION OF PLATE VIII

72) *Cymaenes riba*, Holotype male, genitalia, lateral view; 73) same, right valva, inner surface; 74) same, gnathos and uncus, ventral view; 75) same, aedeagus, lateral view; 76) *Lerema veadeira*, Holotype male, genitalia, lateral view; 77) same, right valva, inner surface; 78) same, gnathos and uncus, ventral view; 79) same, aedeagus, lateral view; 80) same, Allotype female, ostium, ventral view; 82) *Morys sobra*, Holotype male, genitalia, lateral view; 83) same, right valva, inner surface; 84) same, gnathos and uncus, ventral view; 85) same, aedeagus, lateral view.

forewing with the termen and apex a little lighter; discal whitish spots in spaces 2 and 3, apical spots in spaces 6 and 7, all being very weak; fringes gray.

Ventral surface of forewing black with the same spots as upper side, and with a diffuse patch in space 1b below the discal spot of space 2; small black circular spot in space 4 and another smaller in space 5, forming part of the discal spots; basal half of costa yellowish; apical area to space 4 and marginal part of space 3 gray; marginal line black.

Dorsal surface of hindwing with diffuse ochreous scales in the basal two-thirds; fringes gray.

Ventral surface of hindwing gray as the apex on ventral surface of forewing; discal area a little lighter, limited proximally by an irregular black line consisting of small dots of the same size in spaces 1c-4, smaller in 5 and 6, and distally by another much fainter line in the same spaces; black spot in the middle of space 7; marginal line black.

Holotype male, Jardim Zoológico, Brasília, Distrito Federal, Feb. 21, 1966, collected within the forest, by O. H. H. Mielke (holotype no. 9152).

***Cymaenes chapa* Mielke, new species**

Figs. 19, 20, 68-71

Male. Length of forewing: 13 mm. Ground color dark brown. Antenna shaft checkered yellow; yellow under the club and apiculus. Head with white scaling anterior to insertion of antennae. Second segment of palpi brown and white. Genae white. Thorax and abdomen grayish ventrally. Legs grayish.

Dorsal surface of forewing with a weak indication of discal yellow spots in spaces 2 and 3, and apical in spaces 6-8 (the latter more visible); fringes gray.

Ventral surface of forewing black with apex and large diffuse patch in space 1b gray; marginal line black.

Dorsal surface of hindwing with basal and discal areas a little ochreous; fringes gray.

Ventral surface of hindwing grayish-brown; marginal line black; discal spots as in *Cymaenes gisca* Ev., but very faint, being bordered internally by very sharp black spots in spaces 1b, 2, 3, 4-5 (larger), and 6, and externally by spots forming a very weak irregular line in spaces 2-6; sparse yellowish scales, with the exception of space 1b.

Holotype male, Chapada de Contagem, Brasília, Distrito Federal, Feb. 23, 1966, collected within the forest, by O. H. H. Mielke (holotype no. 9062).

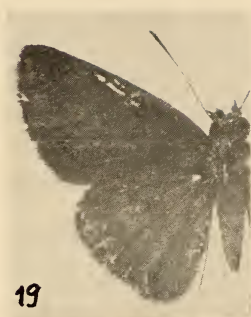
***Cymaenes riba* Mielke, new species**

Figs. 21, 22, 72-75

Male. Length of forewing: 11.5 mm. Antennae brown, shaft checkered yellow, yellow under the club and apiculus. Head dark brown with white scales principally before and behind the insertion of the antennae. Palpi whitish with brown and ochreous hairs. Thorax and abdomen brown dorsally, grayish ventrally. Legs grayish.

Dorsal surface of forewing dark brown with diffuse ochreous scales between the discal and apical spots, and the base, more accentuated in the basal half of the costa; discal opaque yellow spots in spaces 2, 3, and 4 (much reduced), and apical in spaces 6, 7, and 8 (smaller); fringes gray; fine black marginal line.

Ventral surface of forewing with discal area and internal margin black; costal area ochreous from the base to the apical spots (these being weakly indicated), turning grayish in the apical area; marginal black line from space 1b to 4, com-



EXPLANATION OF PLATE III

19) *Cymaenes chapa*, Holotype male, dorsal; 20) same, ventral; 21) *Cymaenes riba*, Holotype male, dorsal; 22) same, ventral; 23) *Lerema veadeira*, Holotype male, dorsal; 24) same, ventral; 25) *Morys sobra*, Holotype male, dorsal; 26) same, ventral; 27) *Adlerodea mineira*, Holotype male, dorsal.

posed of small cones in spaces 5-7, all being separated by the yellow veins of the apex and termen.

Dorsal surface of hindwing ochreous in basal and discal regions; marginal area dark brown; fine black marginal line; fringes gray.

Ventral surface of hindwing ochreous, more accentuated at the costal margin; spaces 1a, 1b, 1c, and cell more grayish; discal band of gray spots in spaces 2-6, continued in space 7 by a little spot; veins 2, 3, 4, 6, and 7 more yellowish at the termen; marginal black line composed of streaks in spaces 1b-3, and spots in spaces 4-5 (larger), 6 (medium) and 7; fringe gray.

Holotype male, Fercal, Ribeirão da Contagem, Brasília, Distrito Federal, Feb. 25, 1966, collected in the woods, by O. H. H. Mielke (holotype no. 8954).

Lerema veadeira Mielke, new species

Figs. 23, 24, 76-81

Male. Length of forewing: 13 mm. Antennae brown, shaft checkered, yellowish under club and apiculus. Palpi yellowish with brown scales. Head, collar, shoulder covers, tegulae, thorax, abdomen and legs brown.

Dorsal surface of forewing light brown. Stigma gray internally and bordered superiorly by a black line; around stigma, scales with yellow sheen; small weak opaque yellow spots in spaces 3, 6, and 7; fringe gray.

Ventral surface of forewing with costa and apex broadly ferruginous brown, remainder dark brown; yellow spots as on upper surface; fine black marginal line from space 2 to apex.

Dorsal surface of hindwing of the same shade as forewing; fringe gray.

Ventral surface of hindwing of the ferruginous brown of forewing apex; space 1b dark brown; black marginal line from space 2-7; small yellowish discal spots in spaces 1c-6, forming an irregular line.

Female. Length of forewing: 13 mm. Forewing more rounded, without apical spots; ferruginous brown darker, and more diffuse on ventral surface of forewing.

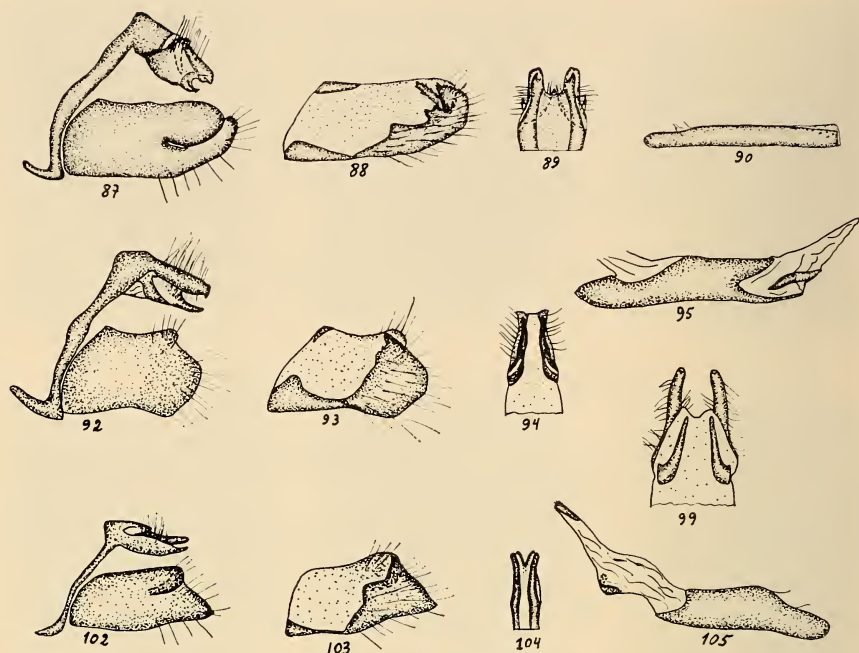
Holotype male, Chapada dos Veadeiros, Goiás, no further data. Allotype, female, Paracatú, Minas Gerais, 1000 m., Aug. 12, 1920, no further data. Holotype and allotype in the Museu Nacional, Rio de Janeiro, as #s 62741 and 59209.

Morys sobra Mielke, new species

Figs. 25, 26, 82-86

Male. Length of forewing: 12 mm. Species externally identical to *Morys subgrisea subgrisea* (Mab.), of which we also collected two specimens mentioned in the previous paper (Brown & Mielke, 1967), and have examined a further five specimens in the Departamento de Zoologia, Secretaria de Agricultura, São Paulo. In *subgrisea*, the small opaque apical spots may be absent, as is the case with the present species. The author's determination of *subgrisea* is based on the description by Lindsey (1925) of *Vorates tupaci*, which was included in the synonymy of *Morys subgrisea subgrisea* (Mab.) by Evans (1955). The great difference between *subgrisea* (= *tupaci*) and the present species is in the male genitalia (see Figures 82-86).

Holotype, male, Sobradinho woods, Brasília, Distrito Federal, Feb. 24, 1966, collected in the cerrado, by O. H. H. Mielke (holotype no. 9030).



EXPLANATION OF PLATE IX

87) *Adlerodea mineira*, Holotype male, genitalia, lateral view; 88) same, right valva, inner surface; 89) same, gnathos and uncus, ventral view; 90) same, aedeagus, lateral view; 92) *Cynea conta*, Holotype male, genitalia, lateral view; 93) same, right valva, inner surface; 94) same, gnathos and uncus, ventral view; 95) same, aedeagus, lateral view; 99) *Oeonus brasus*, Holotype male, gnathos and uncus, ventral view; 102) *Panoquina confusa*, Holotype male, genitalia, lateral view; 103) same, right valva, inner surface; 104) same, gnathos and uncus, ventral view; 105) same, aedeagus, lateral view.

***Adlerodea mineira* Mielke, new species**

Figs. 27, 28, 87-91

Male. Length of forewing: 15 mm. Ground color dark brown. Antenna shaft with a longitudinal yellow streak ventrally, dilated at the base of each segment; base of club yellow ventrally. Head with whitish hairs and green and red iridescence; genae whitish. (Palpi missing). Thorax and abdomen whitish ventrally and legs with whitish hairs.

Dorsal surface of forewing with a few yellow scales in basal two-thirds of costal area and sparse yellow hairs in distal two-thirds of space 1a and near the base of space 1b; fringe gray.

Ventral surface of forewing lighter in costal and apical areas, and these covered with diffuse whitish scales.

Dorsal surface of hindwing with area of yellowish hairs covering the basal half and internal margin; fringe gray.

Ventral surface of hindwing covered with whitish scales; four black spots in spaces 2, 3, 4-5, and 6, the last two being larger.

Holotype male, Estação Florestal de Experimentação, Paraopeba, Minas Gerais, Feb. 27, 1966, collected by O. Mielke (holotype no. 9033).

***Cynea conta* Mielke, new species**

Figs. 29, 30, 92-96

Male. Length of forewing: 13 mm. Antennae brown, yellow under club, yellow streak under apiculus. Nudum 4/9. Antennae longer than half the length of costa. Head with green iridescence and whitish scaling anterior to insertion of antennae. (Palpi missing). Genae white. Collar, shoulder covers and tegulae light brown. Thorax and abdomen light brown dorsally, whitish ventrally, principally on the pectus. Legs brown externally and whitish internally. Tibiae of second pair of legs with spines.

Wings blackish-brown dorsally, lighter ventrally.

Dorsal surface of forewing with brand in space 1b covered by hairs, as in the generic description by Evans (1955); termen a little lighter; two white spots in spaces 2 and 3, that of space 2 larger and distal of the origin of vein 3 and below the discocellular.

Ventral surface of forewing black at the base, with a yellow streak between Sc and R, occupying the basal third of the wing; long erect scales in the basal half of the cell; spots as on upper side; gray area in distal half of space 1b.

Dorsal surface of hindwing with weakly ochreous hairs basally.

Ventral surface of hindwing with termen and internal margin lighter; basal two-thirds of wing with weak violet iridescence; weak discal spots in spaces 2, 3, and 4.

Holotype male, Fercal, Ribeirão da Contagem, Brasília, Distrito Federal, Feb. 25, 1966, collected by O. Mielke (holotype no. 9093).

***Oeonus brasus* Mielke, new species**

Figs. 31, 32, 97-101

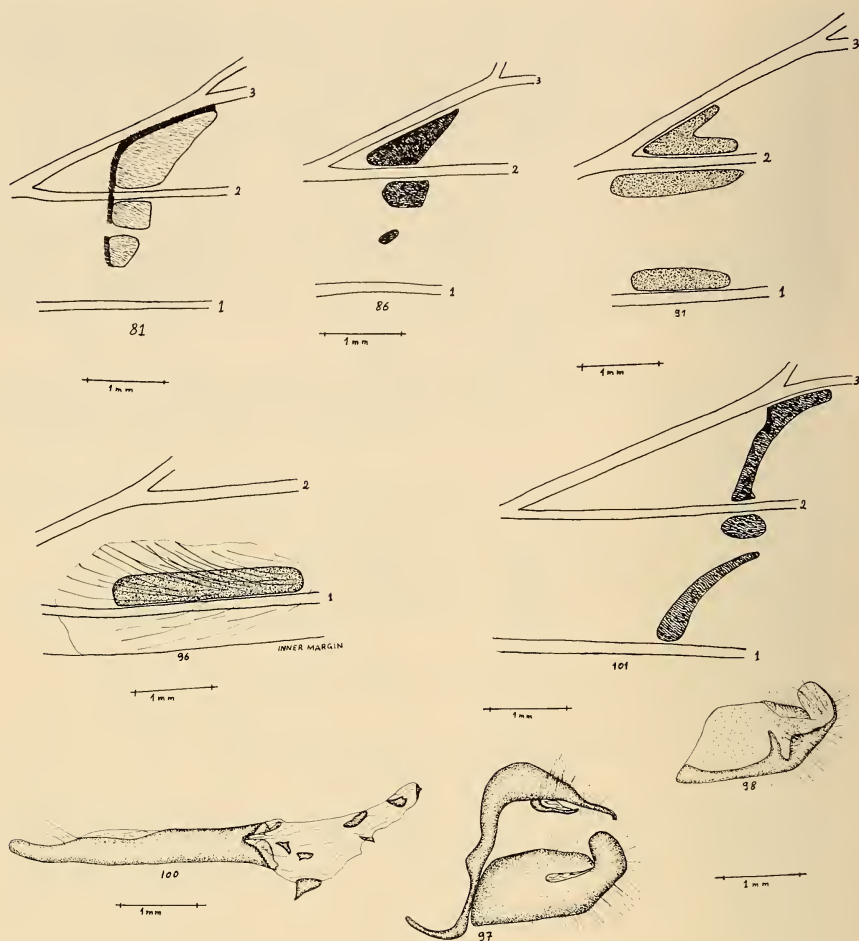
Male. Length of forewing: 16 mm. Antennae brown, shaft checkered on upper half, yellow under base of club. Nudum 8/8. Head brown with ochreous scales. Second segment of palpi yellowish with some brown scales, whitish at the base; third segment brown. Collar and genae whitish. Shoulder covers and tegulae brown with ochreous hairs. Thorax and abdomen brown dorsally with ochre-green hairs at the base of abdomen; whitish ventrally. Legs ochreous. Tibiae of second pair of legs with spines.

Dorsal surface of forewing dark brown, a little yellowish in basal area; more accentuated in basal two-thirds of space 12; yellow spots in spaces 1b (inferior half), 2 (divided in two by brown scales), 3, a small spot in space 6, and a small diffuse spot in the inferior part of the cell, above stigma; stigma consisting of three parts: one at base of vein 3 to vein 2 (internal to spot in space 2), a subrectangular part below vein 2, and a part from vein 1 curved above the spot of space 1b; fringe gray.

Ventral surface of forewing black with apical and costal areas ochreous, more accentuated in proximal half; yellow spots as on upper side, that of space 1b broader and more diffuse.

Dorsal surface of hindwing brown as forewing; base and discal area a little ochreous; yellow spots in spaces 2 and 3; fringe as on forewing but larger at the anal angle.

Ventral surface of hindwing ochreous with spaces 1a and 1b darker; yellow spots

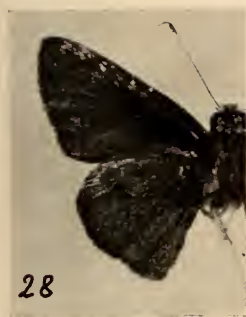


EXPLANATION OF PLATE X

81) *Lerema veadeira*, Holotype male, right forewing, stigmatal area; 86) *Morys sobra*, Holotype male, right forewing, stigmatal area; 91) *Adlerodea mineira*, Holotype male, right forewing, stigmatal area; 96) *Cynea conta*, Holotype male, right forewing, stigmatal area; 97) *Oeonus brasus*, Holotype male, genitalia, lateral view; 98) same, right valva, inner surface; 100) same, aedeagus, lateral view; 101) same, right forewing, stigmatal area.

in spaces 1c, 2, 3, and inferior angle of cell; three fine yellow lines from spot in space 1c to termen.

Holotype male, Sobradinho woods, Brasília, Distrito Federal, collected in forest, Feb. 22, 1966, by O. H. H. Mielke (holotype no. 8991).



EXPLANATION OF PLATE IV

28) *Adlerodea mineira*, Holotype male, ventral; 29) *Cynea conta*, Holotype male, dorsal; 30) same, ventral; 31) *Oeonus brasus*, Holotype male, dorsal; 32) same, ventral; 33) *Panoquina confusa*, Holotype male, dorsal; 34) same, ventral.

Panoquina confusa Mielke, new species

Figs. 33, 34, 102-105

Male. Length of forewing: 16-17 mm. Externally coincides completely with the description of *Panoquina trix* Ev., being distinguished from this by male genitalia (see figs. 102-105). The author does not have any specimens of *P. trix* for a more detailed comparison.

Dorsal surface of forewing with opaque elongated yellowish spot in space 1b, hyaline white spots in spaces 2, 3, 4, 6, 7, and in the cell above internal angle of hyaline spot in space 2.

Ventral surface of forewing with the same spots, that of space 1b being broader; black basally.

Dorsal surface of hindwing with the spot of discal band of under side visible in spaces 2-5.

Ventral surface of hindwing with discal band in spaces 2-5 (paratype) or 6 (holotype); violet iridescence.

Holotype male, paratype male, Km. 222, Belo Horizonte-Brasília highway, Felixlândia, Minas Gerais, Feb. 20, 1966, collected by O. Mielke (holotype no. 8984).

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THYMELICUS LINEOLA (HESPERIIDAE) IN INDIANA

Since the discovery of the first European skipper, *Thymelicus lineola* (Ochsenheimer), in North America around 1910, its distribution across the country has been noted with interest. Clench (1956, *Lepid. News*, 10: 151) gave a summary of its occurrence in North America, reporting the species in Ontario, Toronto, Michigan, New York, and Ohio. The last thorough paper on the distribution of this butterfly is that by Burns (1966, *Canad. Ent.* 98:859), Burns included Michigan, Ohio, New York, Pennsylvania, Maryland, New Jersey, and Connecticut in this country, plus New Brunswick, Ontario, and British Columbia in Canada. More recently the species has also turned up in Illinois (Irwin, 1968, *J. Lepid. Soc.*, 22:21).

On June 22, 1967 I collected one male *Thymelicus lineola* in a grassy pasture in North Manchester, Wabash County, Indiana. A female was collected in the same field on July 1, 1967. Both specimens were captured while at rest in the grass.

I am grateful to Dr. Frederick H. Rindge, Curator of Lepidoptera of the American Museum of Natural History, New York, for help with the literature and confirmation of my identification of the species as *Thymelicus lineola*.—ERNEST M. SHULL, 402 Wayne St., N. Manchester, Indiana